

IN THE CLAIMS:

Please amend claim 7 as follows:

1-6. (Cancelled)

7. (Currently Amended) A magnetic sensor that senses an external magnetic field using a spin-filtered sensor current flowing through a non-magnetic layer; ~~and~~
~~further,~~ comprising:

a pair of ferromagnetic bodies provided on the non-magnetic layer and positioned parallel to an axes of magnetization of each of the ferromagnetic bodies; and

a power source that uses the ferromagnetic bodies as electrodes to supply the sensor current;

wherein: the non-magnetic layer is formed of a semiconductor material; ~~and,~~

wherein the ~~axis-axes~~ of magnetization of one of the pair of ferromagnetic bodies changes so as to detect an external magnetic field, and

wherein said semiconductor material constituting said non-magnetic layer causes to flow a current therethrough from one of said ferromagnetic bodies to the other of said ferromagnetic bodies.

8. (Original) The magnetic sensor as claimed in claim 7, wherein the semiconductor material is indium aluminum arsenide.

9. (Original) The magnetic sensor as claimed in claim 7, wherein the semiconductor material is indium gallium arsenide.

10-11 (Cancelled)